



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

647.8510  
Job Sheet 169399



Part No: 647.8510

Job Qty: 80 ea

Part Name: Insert



Part Weight: 0 lbs

Status: Scheduled

Priority: High

Job Created: 12/8/17

Job Tracking No:

Due Date: 12/20/17

Created By: Mario Poulin

Type: SOLD

Description:

Note: DWG REV N/C IPP REV:A NEW ISSUE 16-11-09 JLM VERIFIED BY:DD

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation          | Qty    | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off      |
|-------|--------------------|--------|------------|----------|-----------|---------|-----------------------|-----------|---------------|
|       |                    |        |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |               |
| 90    | Start up Operation | 80 Ea  |            | 12/19/17 | 0.00      | 0.00    | Start Up Machining-1  |           | M.P. 17/12/14 |
| 100   | Doosan             | 80 pcs |            | 12/20/17 | 0.00      | 23.45   | Doosan                |           | M.P. 17/12/14 |
| 110   | QC                 | 80 pcs |            | 12/20/17 | 0.00      | 0.00    | QC2 Machining-1       |           | M.P. 17/12/14 |
| 120   | QC                 | 80 pcs |            | 12/20/17 | 0.00      | 0.00    | QC8 Machining-1       |           | FK 17-12-16   |
| 122   | Outsource          | 80 pcs |            | 12/20/17 | 0.00      | 0.00    | Outsource6            |           | SP18-01-10    |
| 123   | Packaging          | 80 pcs |            | 12/20/17 | 0.00      | 0.00    | Packaging2            |           | SP18-01-10    |
| 124   | QC                 | 80 pcs |            | 12/20/17 | 0.00      | 0.00    | QC3                   |           | 38            |
| 130   | Packaging          | 80 pcs |            | 12/20/17 | 0.00      | 0.00    | Packaging3-1          | CK116     | AT 18-01-12   |
| 140   | QC21-SA            | 80 Ea  |            | 12/20/17 | 0.00      | 0.00    | QC21                  |           |               |

Part Op 100 - 1-Turn as per Folio FB512 & Dwg 647.8500 Folio Rev: \_\_\_\_ Dwg Rev: \_\_\_\_  
Descriptions: 122 - ISSUE PO: 38684 POSSIBLE SUPPLIER: GROUPE ALTECH  
130 - LOCATION: WA001

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13  
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DEC 19 2017

### Job Allocations

| Operation             | Component Part | Required | Inventory | Allocated | Std Qty |
|-----------------------|----------------|----------|-----------|-----------|---------|
| 90-Start up Operation | M303R0.625     | 4        | 13        | 0         | 0       |

### Part Specifications

Specifications could not be found.

Plex 12/8/17 3:32 PM dart.poulin.mario

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                              |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                              |  |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Step #: _____                                                                                                                                                                      | QTY Effective : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | MRB (QSI042) Approval                        |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Completed By                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Lead hand / Supervisor Approval Verification |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | QC / QA Coordinator Approval                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                              |  |
| <b>Root Cause</b><br><div style="display: flex; justify-content: space-between;"> <div>             Environment <input type="checkbox"/><br/>             Design <input type="checkbox"/><br/>             Doc/Data <input type="checkbox"/><br/>             Equip/Tooling <input type="checkbox"/><br/>             Handling/Pre <input type="checkbox"/><br/>             Material <input type="checkbox"/><br/>             Internal Transport <input type="checkbox"/><br/>             Tribal Knowledge <input type="checkbox"/><br/>             LOA <input type="checkbox"/><br/>             Substation <input type="checkbox"/><br/>             Past Expiry Date <input type="checkbox"/><br/>             Misidentified <input type="checkbox"/> </div> <div>             No Re-verification <input type="checkbox"/><br/>             Operator <input type="checkbox"/><br/>             Offset/Setup <input type="checkbox"/><br/>             Supplier <input type="checkbox"/><br/>             Training <input type="checkbox"/><br/>             Use for Testing <input type="checkbox"/><br/>             Poor Information <input type="checkbox"/><br/>             Rushing <input type="checkbox"/><br/>             Product Improvement <input type="checkbox"/><br/>             Process Improvement <input type="checkbox"/><br/>             Manufacturing Process <input type="checkbox"/><br/>             Past Due <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    | <b>FAULT CATEGORY</b><br><div style="display: flex; justify-content: space-between;"> <div>             Pressure/Forced <input type="checkbox"/><br/>             Bending <input type="checkbox"/><br/>             Centre Not Concentric <input type="checkbox"/><br/>             Cracks <input type="checkbox"/><br/>             Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>             Cuffs <input type="checkbox"/><br/>             Crushing <input type="checkbox"/><br/>             Heat Treat <input type="checkbox"/><br/>             Wave/Twist in Tube <input type="checkbox"/><br/>             Marks/Chatter <input type="checkbox"/> </div> <div>             Temperature/Cure <input type="checkbox"/><br/>             Set-up <input type="checkbox"/><br/>             BOM/Route <input type="checkbox"/><br/>             Broken/Damage/Defect <input type="checkbox"/><br/>             Inspection Incomplete/Unqualified <input type="checkbox"/><br/>             Contamination <input type="checkbox"/><br/>             Countersink <input type="checkbox"/><br/>             Cut Too Short <input type="checkbox"/><br/>             Instructions Incomplete/Unclear <input type="checkbox"/><br/>             Drill Holes <input type="checkbox"/> </div> <div>             Power Loss/Surge <input type="checkbox"/><br/>             Folio/Program <input type="checkbox"/><br/>             Grain <input type="checkbox"/><br/>             Weld <input type="checkbox"/><br/>             Wrong Stock Pulled <input type="checkbox"/><br/>             Out of Sequence <input type="checkbox"/><br/>             Off-set <input type="checkbox"/><br/>             Misabeled <input type="checkbox"/><br/>             Fit/Function <input type="checkbox"/><br/>             Misaligned/off center <input type="checkbox"/> </div> <div>             Positioned Wrong <input type="checkbox"/><br/>             Outside Dimensions <input type="checkbox"/><br/>             Over/Under tolerance <input type="checkbox"/><br/>             Part Incorrect <input type="checkbox"/><br/>             Part Lost/Missing <input type="checkbox"/><br/>             Part Moved <input type="checkbox"/><br/>             Drawing <input type="checkbox"/><br/>             Finish <input type="checkbox"/><br/>             Misread <input type="checkbox"/><br/>             Turning Sequence <input type="checkbox"/> </div> </div> |  |                                              |  |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                              |  |





**DART**  
AEROSPACE  
**S023067**

**Dart Aerospace Ltd.**

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Hawkesbury, ON K64 1K7  
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TEL.: 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com



**Insert**

**PART NO: 647.8510**

**Revision:**

**Operation: Start up Operation**

**Change No:**

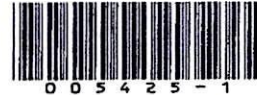
**Mfg Date: 12/15/17**

**Job No: 169399**



2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9  
 Tel: 514-335-3666 Fax: 514-335-3868  
 www.groupaltech.com

# Certificat de Conformité / Certificate of Compliance



## Bon de Livraison / Packing Slip

**005425- 1**

Livré à / Ship to

**DART AEROSPACE LTD**  
 1270 ABERDEEN STREET  
 HAWKESBURY, ON, K6A1K7  
 CANADA  
 Tel.: 613-632-5200 Fax.:

Client / Customer:

**DART AEROSPACE LTD**  
 1270 ABERDEEN STREET  
 HAWKESBURY, ON, K6A1K7  
 CANADA  
 BUYER:

| Date expédition<br>Ship date | Créé Par<br>Generated By | Transport / No de Compte<br>Courtier / Acc. No. | Bon de commande Client<br>Customer Purchase Order No. |
|------------------------------|--------------------------|-------------------------------------------------|-------------------------------------------------------|
|------------------------------|--------------------------|-------------------------------------------------|-------------------------------------------------------|

08-Jan-2018

Ross Montieth

**038684**

| #Ligne<br>Line# | No. de Série / # Pièces<br>Part Number / Line Item Details | Description pièce(s)                                                                                              | CATG.<br>U/M      | Comm.<br>/Ordered | Exp/<br>Shipped | Qté NC/<br>NC Qty | Qté<br>Scrap/ | À venir/<br>Back Order |
|-----------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-----------------|-------------------|---------------|------------------------|
| 1               | RBW6505G00831-3G-7<br>Rev.                                 | SWIVEL PLATE WELDMENT<br>01 -CAD YELLOW 500 [CADMIUM YELLOW 500]<br>QQ-416, TYPE II, CLASS II: CADMIUM YELLOW *** | CADMIUM<br>CH     | 1                 | 1               | 0                 | 0             | 0                      |
| 2               | RBW6505G00831-3G-1<br>Rev.                                 | LEG ASSEMBLY WELDMENT<br>01 -CAD YELLOW 500 [CADMIUM YELLOW 500]<br>QQ-416, TYPE II, CLASS II: CADMIUM YELLOW *** | CADMIUM<br>CH     | 1                 | 1               | 0                 | 0             | 0                      |
| 3               | RBW6505G00831-3G-21<br>Rev.                                | SWIVEL PLATE<br>01 -CAD YELLOW 500 [CADMIUM YELLOW 500]<br>QQ-416, TYPE II, CLASS II: CADMIUM YELLOW ***          | CADMIUM<br>CH     | 1                 | 1               | 0                 | 0             | 0                      |
| 4               | RB6796941-201-3<br>Rev.                                    | PLUG<br>BLACK OXIDE<br>MIL-C-13924C CLASS 1                                                                       | BLACK-OXIDE<br>CH | 6                 | 6               | 0                 | 0             | 0                      |
| 5               | 647.8510<br>Rev.                                           | 647.8510<br>PASSIVATE ,MIL-S-5002<br>TYPE 6                                                                       | PASSIVATION<br>CH | 80                | 80              | 0                 | 0             | 0                      |

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80/8-01-10

Notes Additionnelles / Additional Notes

Epaisseur réelle  
Actual Thickness

Inspecteur Qualité  
Quality Inspector

Réçu par  
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences  
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements  
 Our financial and legal responsibility will not be higher than the amount of invoice.

## PURCHASE ORDER

| Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |          |             |        |          |                |                   |         |                  |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|-------------|--------|----------|----------------|-------------------|---------|------------------|----------------|
| Line Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Job    | Part     | Description | Status | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (CAD) | Extended Price |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 169399 | 647.8510 | Insert      | Firmed | 1/3/18   | 80 pcs         | 0 pcs             | 80 pcs  | \$1.25/pcs       | \$100.00       |
| <p>ISSUE PO: _____</p> <p>SUPPLIER: GROUPE ALTECH</p> <p>-Passivate, MIL-S-5002 TYPE</p> <p>6 AS PER DWG</p> <p>- Certificate of Conformity is required</p> <p style="text-align: right;"><b>Grand Total: \$395.00</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |          |             |        |          |                |                   |         |                  |                |
| Order Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |          |             |        |          |                |                   |         |                  |                |
| <p>Procurement Quality Clauses</p> <p>A005 right of entry</p> <p>A012 chemical and physical test report</p> <p>A016 personnel qualification</p> <p>A017 raw material identification (as applicable)</p> <p>A022 Apical Processing</p> <p>A024 process certifications</p> <p>A026 certification of material conformance</p> <p>A041 quality management system</p> <p>A042 dart notification by supplier</p> <p>A043 retension of quality documents</p> <p>A048 counterfeit parts avoidance, detection, mitigation and disposition program</p> <p>A049 supplier awareness</p> <p>Terms &amp; Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit <a href="http://www.dartaerospace.com">www.dartaerospace.com</a> for further explanation.</p> |        |          |             |        |          |                |                   |         |                  |                |

Plex 12/20/17 1:31 PM dart.lavoie.chantal

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**DART**  
AEROSPACE  
**S030909**



Insert

**PART NO: 647.8510**  
**Revision:**  
**Operation: Outsource**  
**Change No:**

**Dart Aerospace Ltd.**

1270 Aberdeen Street  
Hawkesbury, ON K64 1K7  
CANADA  
TEL.: 1 613 632-5200  
Email: [sales@dartaero.com](mailto:sales@dartaero.com)  
[www.dartaerospace.com](http://www.dartaerospace.com)

**Mfg Date: 01/10/18**  
**Job No: 169399**